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ART. IX. *Descriptions of Three New Genera of Plants, from the State of New-York. Cylactis, Nemopanthus, and Polanisia, by* C. S. RAFINESQUE.

1. *N. G. Cylactis.*

CALYX campanulated 6 to 10 fidus, sepals a little unequal. Petals 4 to 6 equal. Many perigynous stamens. Pistils 8 to 12, ovaries sessile ovate, styles elongated, stigmas capitated. Berries few, distinct, one seeded.

This new genus belongs in the analytical and natural method, (see Analysis of Nature) to the first natural class *Eltrogynia*, first natural order *Rhodanthia*, second natural family *Senticosia*, next to the genera *Rubus*, *Oligacis*, &c. It would range itself into the artificial class *Icosandria* of the Linnæan sexual system; but not properly into any of its orders, since the number of pistils is variable, and never above 12. Only one species belongs to it, which I have discovered in company with Mr. Knevels, on the Catskill mountains. The etymology of the name derives from two Greek words meaning *radiated calyx*. It differs essentially from *Rubus* by the unequal many cleft calyx, variable petals, and few pistils.

Cylactis montana. Mountain cylactis—Stem herbaceous upright, unarmed, pubescent; leaves quinate, nearly smooth, upper ones sessile, stipules oblong, folioles ovate acuminate, incised, serrated, ciliated, base acute, entire, the middle one petiolated: flowers few corymbose, peduncles erect elongated bracteolated; calyx pubescent, sepals lanceolate acute, nerved, reflexed; petals cuneate-obovate, longer than the calyx.

It is a small perennial plant, rising about half a foot; flowers white, blossoming in June. On the Catskill mountains near the great falls, &c.

2. *N. G. Nemopanthus.*

Dioical. M. flowers calyx 5 phylle, equal, deciduous. No corolla. Stamina 5 hypogynous, alternating with the calyx.

Fem. fl. calyx deciduous 5 phylle ? Ovary ovate, stigma sessile 4 lobed. Berry 4 celled 4 seeded.

The name means *flower with a filiform peduncle.* A shrub forms this genus, which had perhaps been united with *ilex* by Michaux, &c.; but it differs altogether from it by the want of corolla, hypogynous stamens, sessile, style, &c. it does not even belong to the same family, but to the natural family *Rhamnidia*, natural order *Plynontia*, and natural class *Eltrogynia*, next to the genus *frangula.* In the sexual system it would belong to *Dioecia pentandria*, very far apart from *Frangula.*

Nemopanthus fascicularis. Fascicled nemopanthus. Shrubby, leaves fasciculated, petiolate, oblong, mucronate, entire, rather undulated, membranaceous, smooth; flowers axillary fasciculated, peduncles filiform, shorter than the leaves.

It forms a small shrub from 5 to 8 feet high, covered with gray bark, and with slender upright branches ; the flowers are greenish, very small, the female flowers have shorter and thicker peduncles ; they blossom in June. It grows on the Catskill mountains near the two lakes. It is, perhaps, the *Ilex canadensis ?* of Michaux and Pursh. And it has some analogy with the *Frangula alnifolia.*

3. *N. G. Polanisia.*

Calyx 4 phylle, phylles coloured unequal, the upper one unguiculated spatulated. Corolla with 4 unequal petals, the two upper ones larger and unguiculated. A nectarium upwards glandular, broad, and truncated. Stamina 9 to 14, unequal, erect, hypogynous. Ovary oblong on a short pedicel, one style, one truncated stigma. Fruit a follicular capsule, one celled, two valved, many seeded, seeds inserted on each side of each suture, nearly snail-shaped.

The type of this genus is the *Cleome dodecandra* of Linnæus, under which denomination many species were blended, which have no similitude with the real genus *cleome*, differing in the calyx, corolla, nectarium, stamina, and fruit. I shall describe here that of North America, where 2 or 3 species exist, besides those of the West Indies, Africa, and Asia, which are totally different. The etymology of the name which I have given to it, derives from *many irregularities.* It belongs in the analytical method of botany, to the first natural class *Eltrogynia*, ninth natural order *Monostimia*, natural family *Capparidia.* It can find no place in the sexual system since the number of stamina varies from 9 to 14, unless it be forced into *Dodecandria.*

Polanisia graveolens. Clammy polanisia—hairy and glutinous all over, stem upright, leaves alternate, petiolate, ternated, folioles sessile, the intermediate longest, oblong, obtuse, entire, hairy on the margin and nerves: flowers racemose erect, bracteas petiolate, ovate, obtuse, calyx hairy, petals emarginate, crenate, capsules divaricate glutinous.

It is the *Cleome dodecandra* of Michaux and Pursh. It grows on the banks of rivers and lakes, on the Hudson near Newburgh, on the Susquehannah near Harrisburg, on Lake Erie, on the Ohio, and Mississippi, &c. It blossoms in July and August, the stem rises about 1 foot, the petals are white, or slightly red. The whole plant has a strong graveolent smell, similar to that of *Erigeron graveolens.* (Received January, 1818. *Editor.*)

ART. X. *Notice on the Myosurus Shortii.*

I HAVE the pleasure to announce to the botanists, that the genus *Myosurus*, hitherto thought an European genus, and composed of a single species, has been detected in the United States by Dr. Short of Kentucky, who has discovered it in the neighbourhood of Hopkinsville, in Christian county, West Kentucky, and has communicated me specimens of it; by which, on comparing them with the European *Myosurus*, figured in *Flora Danica*, Lamarck's Illustrations, &c. I have been enabled to ascertain, that the American plant must form a second species of that genus, which I have accordingly dedicated it to the discoverer, by naming it *Myosurus Shortii.* This adds another genus and another new species to our Flora. I add the comparative definitions of the two species, exhibiting their different characters and diagnosis.

Myosurus minimus. Lin. &c.	*Myosurus Shortii.* Raf.
Leaves linear-cuneate, broader near the top, and acute. Scapes as long as the leaves, thickened towards the upper part. Calix 5 leaved, spurs consimilar: petals 5. Stamens 5 to 8. Carpophore as long as the scapes.	Leaves linear obtuse, hardly attenuated below. Scapes shorter than the leaves, and filiform. Calix 3 to 5 leaved, spurs membraneous : petals 3 to 5. Stamens 10 to 12. Carpophore shorter than the scapes.

C. S. RAFINESQUE.

Philadelphia, May 1, 1819.

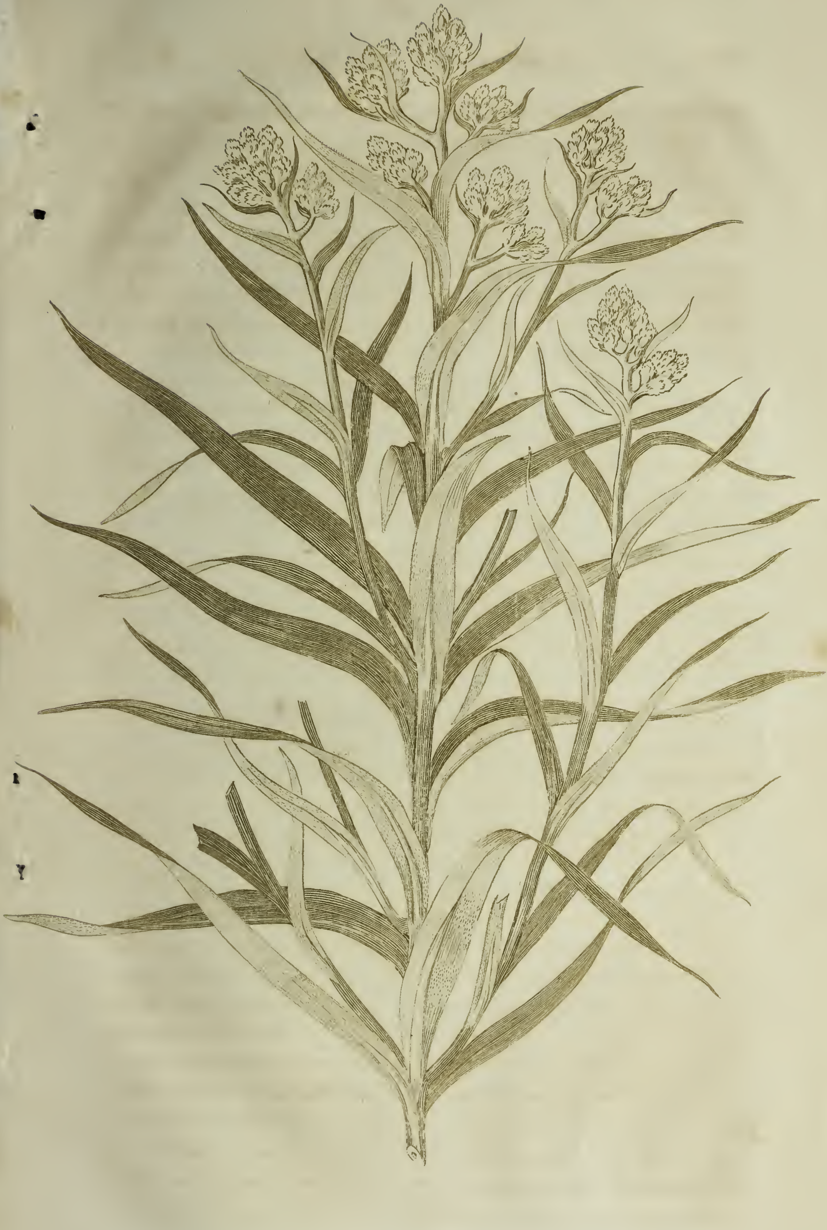
ART. XI. *Description of a New Species of Gnaphalium, by Professor* E. IVES.

To B. Silliman, Esq. M.D., &c.

THE following description of a new species of Gnaphalium, accompanied with a drawing, has been in my possession for two years. If the subsequent observations will be of use to correct error, or solve doubts which may have existed concerning some species of gnaphalium, they are at your service.

E. IVES.

This plant was first observed by me, in company with Mr. C. Whitlow, in July, 1817, by the margin of a brook, a few rods north of Mr. E. Whitney's gun manufactory, near New-Haven. It is also found on the margin of the Housatonick, about thirty miles from Long Island sound, where it was observed by Dr. Alfred Monson, the last summer. Specimens of this plant were sent to Z. Collins, Esq. of Philadelphia, for the purpose of comparing it with the species of gnaphalium in Muhlenberg's herbarium, more particularly with the *luteo-album* and *Pennsylvanicum*, which I had not seen.



Gnaphalium decurrens.

Doolittle sc.

I am indebted to the politeness of Mr. Collins, for the facts on this subject relative to Muhlenberg's herbarium. He observes, "your Gnaphalium is certainly not the *luteo-album* of Muhlenberg, which may not strictly be a native, but introduced. Yours most approaches G. polycephalum Mx. Still, from the decurrent leaves and other differential marks, it appears to me to be a new species. Muhlenberg's collection has it not."

As the *luteo-album* is said to grow in New-England, yet so far as my observation has extended it has not been found by any of the botanists, I am induced to believe that this opinion has arisen from some erroneous description of the plant which is the subject of this paper.

As the decurrent leaves of this Gnaphalium distinguish it so obviously from all the other American species of Gnaphalium, I propose to give it the specific name of *decurrens.*

Specific description of Gnaphalium Decurrens (large life everlasting.)

Leaves lanceolate, broad at base, acute, decurrent, somewhat scabrous above, tomentose beneath ; stem leafy branched spreading, about three feet high.—See the plate.—The plate represents a section of the upper part of the plant.

FOSSIL ZOOLOGY, &c.

ART. XII. *Observations on some Species of Zoophytes, Shells, &c. principally Fossil, by* THOMAS SAY.

IF the following descriptions and notices of some of the animal productions of our country, chiefly fossil, and of which some are but little known, should be found of sufficient interest to occupy a place in the Journal of Science, they are very much at your service for that work.

The greater portion of them are extracted, with some modification, from an essay which I read about three years ago, to the Academy of Natural Sciences, without any intention at the time of giving publicity to them. But the rapid diffusion of a taste for geological research, seems to require corresponding exertions on the part of those who have attended to fossil remains, inasmuch as geology, in order to be eminently furnished with every advantage that may tend to the developement of many important results, must be in part founded on a knowledge of the different genera and species of reliquiæ, which the various accessible strata of the earth present. The accessory value of this species of knowledge, is now duly estimated in Europe, as affording the most obvious means of estimating, with the greatest approximation to truth, the comparative antiquity of formations, and of strata, as well as of identifying those with each other which are in their nature similar.

Certainly very little is yet known about the fossils of North America, and very little can be known accurately, until we shall have it in our power to compare them with approved detailed descriptions, plates, or specimens of those of Europe; which have been made known to the world by the indefatigable industry, and scientific research of Lamarck and other naturalists.

America is rich in fossils. In many districts of the United States, vast beds of fossil shells, zoophytes, &c. are deposited, which, for the most part, are concealed from the inquiring eye, offering superficially a mere confused mass of mutilated fragments. These rich repositories must finally be exposed to view, by the onward pace of improvement, and the more interior strata will be unveiled by some fortunate profound excavations, the result of enterprise in the pursuit of gain. The very surface of the country in many regions, is almost overspread with the abundance of casts, or redintigrate fossils, many of which are apparently specifically anomalous, and some generically so. The correct, and only useful mode in which the investigation of our fossils can be conducted, is attended with some difficulty and labour.

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